# Safety Science

EDITOR A.R. Hale, Delft, The Netherlands

ASSOCIATE EDITOR

J. Suokas, Tampere, Finland

**EDITORIAL BOARD** 

J.G.U. Adams, London, UK R. Amalberti, Brétigny sur Orge, France J. Berghmans, Heverlee, Belgium G.E.G. Beroggi, Delft, The Netherlands D.M. DeJoy, Athens, GA, USA T.P. Dwyer, Campinas, Brazil H.S. Eisner, Buxton, UK E. Fadier, Vandoeuvre, France R. Fuller, Dublin, Ireland K.K. Häkkinen, Vantaa, Finland J. Hovden, Trondheim, Norway B. Kirwan, Birmingham, UK U. Kjelién, Stabekk, Norway J.F. Kraus, Los Angeles, CA, USA F. Lamm, Auckland, New Zealand P. Langaa Jensen, Lyngby, Denmark T.J. Larsson, Mount Eliza, Vic., Australia J.-P. Leger, Parktown North, South Africa E. Menckal, Solna, Sweden A.S. Miguel, Braga, Portugal D. Mohan, New Delhi, India J.-P. Raffoux, Verneuil-en-Halatte, France M. Rahimi, Los Angeles, CA, USA M. Simard, Montreal, Canada H.S. Shannon, Hamilton, Ont., Canada Y. Tabata, Tokyo, Japan T.J. Triggs, Clayton, Vic., Australia J. Van de Kerckhove, Pellanberg, Belgium G.J.S. Wilde, Kingston, Ont., Canada B. Wilpert, Berlin, Germany

LIST OF CONTENTS AND AUTHOR INDEX VOLUME 29, 1998



# Safety Science

#### **EDITOR**

A.R. Hale, Delft University of Technology, Faculty of Technology and Society, Safety Science Group, Kanaalweg 2b, 2628 EB Delft, The Netherlands

### **ASSOCIATE EDITOR**

J. Suokes, VTT Manufacturing Technology, Safety Engineering, PO Box 1701, FIN-33101 Tampere, Finland

### **EDITORIAL BOARD**

J.G.U. Adams, London, UK

R. Amalberti, Brétigny sur Orge, France

J. Berghmans, Heverlee, Belgium

G.E.G. Beroggi, Delft, The Netherlands

D.M. DeJoy, Athens, GA, USA

T.P. Dwyer, Campinas, Brazil

H.S. Eisner, Buxton, UK

E. Fadier, Vandoeuvre, France

R. Fuller, Dublin, Ireland

K.K. Häkkinen, Vantaa, Finland

J. Hovden, Trondheim, Norway

B. Kirwan, Birmingham, UK

U. Kjelién, Stabekk, Norway

J.F. Kraus, Los Angeles, CA, USA

F. Lamm, Auckland, New Zealand

P. Langaa Jensen, Lyngby, Denmark

T.J. Larsson, Mount Eliza, Vic., Australia

J.-P. Leger, Parktown North, South Africa

E. Menckal, Solna, Sweden

A.S. Miguel, Braga, Portugal

D. Mohan, New Delhi, India

J.-P. Raffoux, Verneuil-en-Halatte, France

M. Rahimi, Los Angeles, CA, USA

M. Simard, Montreal, Canada

H.S. Shannon, Hamilton, Ont., Canada

Y. Tabata, Tokyo, Japan

T.J. Triggs, Clayton, Vic., Australia

J. Van de Kerckhove, Pellanberg, Belgium

G.J.S. Wilde, Kingston, Ont., Canada

B. Wilpert, Berlin, Germany

Author Service Department: For queries relating to the general submission of articles (including electronic text and artwork) and the status of accepted manuscripts, please contact the Author Service Department: e-mail: authors@elsevier.co.uk; fax: +44 (0) 1865 843905; Tel.: +44 (0) 1865 843900

Publishing Office: Elsevier Science Ltd, Bampfylde Street, Exeter EX1 2AH, UK [Tel.: +44 (0) 1392 251558; fax: +44 (0) 1392 425370]

Advertising Office: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England [Tel.: +44 (0) 1865 843000; fax: +44 (0) 1865 843010]

Back Issues: Back issues of all previously published volumes are available direct from Elsevier Science Offices. Complete volumes and single issues can be purchased from 1992–1997. Earlier issues are available in high quality photo-duplicated copies as complete volumes only.

Published 9 issues per annum in 3 volumes (published monthly excepting January, May and September)

Annual Institutional Subscription Rates 1998: Europe, The CIS and Japan, 1193.00 Dutch Guilders; all other countries, US\$686.00. Associated Personal Subscription rates are available on request for those whose intuitions are library subscribers. Dutch Guilders prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Any enquiries relating to subscription should be sent to:

The Americas: Elsevier Science Customer Support Department, PO Box 945, New York, NY 10010, USA [Tel.: (+1) 212-633-3730/1-888 4ES-INFO; fax: (+1) 212-633-3680; e-mail: usinfo-f@elsevier.com]

Japan: Elsevier Science Customer Support Department, 9–15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106, Japan [Tel.: (+81) 3-5561-5033; fax: (+81) 3-5561-5047; e-mail: info@elsevier.co.ip]

Asia Pacific (excluding Japan): Elsevier Science (Singapore) Pte Ltd, No. 1 Temasek Avenue, 17–01 Millenia Tower, Singapore 039192 [Tel.: (+65) 434-3727; fax: (+65) 337-2230; e-mail: asiainfo@elsevier.com.sql

Rest of the World: Elsevier Science Customer Service Department, PO Box 211, 1001 AE Amsterdam, The Netherlands [Tel.: (+31) 20-485-3757; fax: (+3) 20-485-3432; e-mail: nlinfo-f@elsevier.nl]

© 1998 Elsevier Science Ltd. All rights reserved

# **VOLUME 29, 1998 LIST OF CONTENTS**

## Number 1

R.T. Gun and S.A. Brinkman Prediction and prevention of chemical-related injury: towards an effective risk assessment protocol M.O. Jannadi and S. Assaf Safety assessment in the built environment of Saudi Arabia 15 J.C. Davies, G. Stevens 25 Understanding accident mechanisms: an analysis of the comand D.P. Manning ponents of 2516 accidents collected in a MAIM database A. Saloniemi and H. Oksanen 59 Accidents and fatal accidents-some paradoxes Short Communication and Technical Note L. Vassie and S. Cox Small and medium size enterprises (SME) interest in voluntary certification schemes for health and safety management:

preliminary results

## Number 2

T. Rundmo, H. Hestad Organisational factors, safety attitudes and workload among and P. Ulleberg offshore oil personnel W.-R. Chang 89 The effect of surface roughness on dynamic friction between neolite and quarry tile R.J. Mitchell, T.R. Driscoll 107 Traumatic work-related fatalities involving mining in Australia and J.E. Harrison E. Eilert-Petersson and L. Schelp 125 An epidemiological study of non-fatal pedestrian injuries M.S. Wogalter, A.B. Magurno, 143 The influence of time stress and location on behavioral warning R. Rashid and K.W. Klein compliance

# Number 3

## SAFETY RULES

J. Leplat and A.R. Hale

159 Guest editorial: Safety rules

A.R. Hale and P. Swuste

163 Safety rules: procedural freedom or action constraint?

Y. Dien

179 Safety and application of procedures, or 'how do 'they' have to use operating procedures in nuclear power plants?'

- J. Leplat 189
- L. Åberg 205 Traffic rules and traffic safety
- D. Fleury 217 Reinforcing the rules or integrating behavioural responses into road planning

About implementation of safety rules

